

THE IDENTIFICATION OF THE FEMALE OF THE
MYRMOSID SUBGENUS MYRMOSULA*

(Hymenoptera, Tiphidæ)

BY CLARENCE E. MICKEL

University of Minnesota

A revision of the Myrmosinæ of the New World by Dr. Karl V. Krombein has recently appeared (Trans. Amer. Ent. Soc., vol. 65, pp. 415-465, January 23, 1940). It includes a key to the males and females of the subgenus *Myrmosula* and a description of the new species *Myrmosa (Myrmosula) exaggerata*. Since the appearance of this revision, two female specimens of *Myrmosula* have come to my notice by being included with Mutillid material sent me for identification. The first specimen was sent me for identification by the Division of Entomology, University of California, Berkeley, California. An attempt was made to identify the specimen by means of Krombein's key but due to the use of an unfortunate descriptive term and the absence of any mention of certain structures on the head, authentic identification could not be made. The specimen had been collected at Pasadena, California, and since the only other species recorded from that vicinity was the unique type of *exaggerata* from Riverside, California, it seemed probable that the specimen was one of that species. The description of *exaggerata* states: "Frontal processes joined basally to form a weak median biramose process overhanging the bases of the antennæ." The front of the specimen in question was strongly elevated between the insertion of the antennæ and the elevation bore a pair of parallel ridges separated by a distance much less than the length of the ridges. It did not seem possible to imagine this elevated prominence as being a biramose process. The same phrase, biramose process, was used in Krombein's key to describe the interantennal elevation in the species *rutilans*, except that in that species the biramose process was said to be strong. An examination of *rutilans* specimens determined by Krombein showed that the interantennal elevation bore a pair of strong oblique ridges, converging but not meeting posteriorly. There was almost no resemblance between the interantennal elevations of the two species, except that both had a pair of ridges, and it did not seem possible to use such a descriptive term as "biramose" in describing either one.

*Paper No. 1793 of the Scientific Journal Series of the Minnesota Agricultural Experiment Station.

The Pasadena specimen also had a pair of processes on the under side of the head near the insertion of the mandibles. Nothing whatever was said in the original description of *exaggerata* regarding such processes.

The specimen was sent to Professor P. H. Timberlake, University of California Citrus Experiment Station, Riverside, California, for comparison with the type. Special attention was called to the form of the interantennal elevation and the processes on the under side of the head. Professor Timberlake replied that the type and the Pasadena specimen were exactly alike in all respects, except for a slight difference in color, which he did not regard as significant.

A second specimen came in material from the California Academy of Sciences. It was collected at Antioch in Contra Costa County, California. While it is closely related to *exaggerata* it is obviously not the same and is described hereafter.

All of the species of *Myrmosula* have a well developed hypostomal carina. This carina is more or less elevated into a tubercle or a strong process slightly mesad of the insertion of the mandible in all the females of this subgenus so far described. This modification of the hypostomal carina has not been mentioned with reference to any species in any of the previous papers on this group. The following key is offered with the hope that it may aid in the easier and more certain identification of the known females:

1. Front not elevated between the insertions of the antennæ, the antennal tubercles large and prominent; hypostomal carina elevated slightly mesad of insertion of mandibles into a distinct tooth, the latter almost concealed by the mandibular lamella; inferior margin of mandibular lamella emarginate*parvula* Fox
- Front very strongly elevated between the antennæ, the antennal tubercles much less prominent than the interantennal elevation; hypostomal carina very slightly tuberculate slightly mesad of the insertion of mandibles, or with a process not concealed by the mandibular lamella; inferior margin of mandibular lamella emarginate or not.....2
2. Interantennal elevation with a pair of weak parallel ridges; hypostomal carina elevated into a distinct, dentate process slightly mesad of the insertion of mandibles, the tip of the process blunt and slightly recurved anteriorly.....3
- Intertennal elevation with a pair of oblique, prominent ridges converging posteriorly; hypostomal carina with only a very

small tubercle slightly mesad of the insertion of the mandibles
*rutilans* (Blake)

3. Parallel ridges on interantennal elevation approximate, the distance between them equal to half their length; front without a depression immediately behind the interantennal elevation; inferior edge of mandibular lamella broadly, shallowly emarginate.....*exaggerata* Krombein
- . Parallel ridges on interantennal elevation widely separated, the distance between them almost equal to their length; front with a distinct depression immediately behind the interantennal elevation; mandibular lamella short, its inferior edge not emarginate.....*pacifica* n. sp.

Myrmosa (*Myrmosula*) *pacifica* Mickel, new species

Female. Pale, ferruginous, almost testaceous throughout, except for darkened tips of mandibles; second tergite with a pair of small, creamy white, antero-lateral spots; and median third of telescoped part of last tergite, creamy white. *Head* distinctly broader than thorax; the front and vertex with small, close, distinct punctures, the genæ with fine, close punctures; mandibles bidentate at tip, the mandibular lamella on inferior margin short, present only on proximal third of mandible, and not emarginate; hypostomal carina produced slightly mesad of insertion of mandibles forming a blunt process distinctly recurved anteriorly at tip, and distinctly visible below mandibular lamella; anterior margin of clypeus broadly, shallowly emarginate; front strongly elevated between insertions of antennæ, the elevation bearing a pair of widely separated, parallel ridges, the distance between the ridges almost, but not quite, equal to their length; a very shallow, broad depression immediately posterior to interantennal elevation; head clothed throughout with very short, pale, glittering hairs, and scattered, long, erect hairs. *Dorsum of thorax* finely, very closely punctate, the pleural areas weakly striolate-punctate; thorax clothed throughout with very short, pale, glittering hairs and numerous, long, erect, pale hairs. *Abdomen* weakly, finely punctate, clothed with very short, pale, glittering hairs and scattered, long, erect hairs, except exposed portion of last tergite with thick, long, very pale ferruginous hairs. *Legs* finely, closely punctate, clothed throughout with thick, short, appressed, pale, glittering hairs and a few scattered long, erect pale hairs. Length, 4.5 mm.

Holotype, female, Antioch, California, September 4, 1938 (E. C. Van Dyke), in the California Academy of Sciences.

MYRMOSA (*MYRMOSULA*) *EXAGGERATA* Krombein

A single female has been examined from Pasadena, California, May 22, 1925; compared with the type by P. H. Timberlake.